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ABSTRACT

This study examines whether equity graduates (Aboriginal people, visible minorities, and persons with disabilities) of Canadian community colleges achieve employment outcomes that are equivalent with non-equity graduates. There appear to be differences in employment rates and earnings of Aboriginal compared to non-Aboriginal people, of men compared to women, of workers of color compared to other Canadians, and persons with disabilities compared to non-disabled. The researchers examined whether these disparities occur in the school to work transition period. The authors used a comprehensive Western Canadian community college for this study. The college had about 6,500 students enrolled in regular, full-time programs, and part-time and distance education enrollment of about 24,000 during the 2001-02 academic year. The study used two major sources of data: (1) an annual survey of graduates; and (2) institutional data on the characteristics of survey respondents. The students graduated during the 1999-2000 academic year. A total 1,041 out of 1,606 graduates responded, for a response rate of 65%. Women graduates were more likely to be employed (93%), but they were also more likely to work in part-time positions. Equity group members had lower employment rates. Older equity graduates had the least success in achieving employment. (Contains 10 tables, 2 figures, and 43 references.) (NB)

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Employment outcomes of community college equity group graduates

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Paper prepared for presentation at the Association for Institutional Research Annual Forum, Tampa, FL, May 17-22, 2003.

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Employment outcomes of community college equity group graduates

Abstract

The initial school to work transition is a critical time for individuals in achieving the economic benefits of post-secondary education. Community colleges perform a key role in this connection to the workplace for disadvantaged groups. This research examined the effectiveness of a large comprehensive community college in achieving successful transition to the workplace for equity and female graduates. Data were derived from a recent graduate survey and from institutional data on demographic and achievement characteristics. Various statistical techniques were used to analyze the initial workplace conditions for disadvantaged groups and the influence of explanatory variables on employment and earnings. Findings indicate that women earn less than men and that equity graduates have higher initial unemployment rates. It is suggested that human capital theory may not be able to explain these differential occupational outcomes and the lower returns for equivalent educational investments.

Employment outcomes of community college equity group graduates

The economic benefits for individuals of post-secondary education have been established (Pascarella & Terenzini, 1991; Statistics Canada, 2003). This positive relationship between education and subsequent earnings is often explained by human capital theory, which suggests that skills acquired in school contribute to an individual's subsequent productivity and that firms pay higher wages to more productive individuals (Becker, 1962; Becker, 1993). The value of post-secondary education appears to increase with level of educational attainment in Canada (Finnie, 2001), in the United States (Day & Newburger, 2002) and in the UK (Blackaby, Murphy & O'Leary, 1999). Lemieux (2001) suggested that the causal effect of education in Canada was close to 10 percent per year.

Community colleges also help increase the employment and earning potential of students (Sanchez and Laanan, 1997). In Canada, young community college graduates have higher employment rates than young high school graduates (Allen, Harris & Butlin, 2003). Grubb (1999) identified significant benefits for community college education, particularly for students completing programs, enrolling in certain occupation fields and gaining employment in their field of study. Phillippe and Patton (1999) found that in the United States students with some college or an associate degree earned about fifteen percent more than high school graduates.

While these benefits from education have been established for graduates as a whole, another question is how these benefits are distributed across various demographic variables. In particular, do these benefits accrue equitably to disadvantaged groups? Lin and Vogt (1996) found that community college graduates have improved job status and earnings but that the gaps between the advantaged and the disadvantaged increased relatively and absolutely. Sanchez,

Laanan and Wiesley (1999) found that post community college earnings were less for women than men.

Community colleges are complex educational institutions with a diversity of educational, economic, cultural and social goals. However, one of the primary purposes of community colleges is to provide access to post-secondary education for many students who may not be able to attend selective four year colleges or universities. In Canada there are 150 community colleges, technical institutes, university colleges and Cegéps with about 38 percent of post-secondary enrolments (Levin, 2001). In the United States, there were about 1600 community colleges (including branch campuses) in 1998 with a credit enrolment of 5,500,000 in 1997 (Coley, 2000). Compared to students in four year universities, community college students tend to be older and more racially and ethnically diverse (Coley, 2000). Students at community colleges also tend to be less affluent than students at four year colleges (Dougherty, 1991). Phillippe and Valiga (2000) reported that more than half of community college students were first generation students. Community colleges act as gateways into post-secondary education for less affluent members of society and provide opportunities for economic, cultural and social participation within communities. They provide educational access for minorities and other disadvantaged groups (Bailey & Averianova, 1999). Many community colleges have open access policies to facilitate entrance into post-secondary education (Bryant, 2001).

The question this research will examine is whether equity graduates, that is, Aboriginal people, visible minorities and persons with disabilities, compared with non-equity graduates achieve equivalent employment outcomes soon after graduation. There appears to be differences in the employment rates and earnings of Aboriginal people compared to non Aboriginal Canadians (George, Kuhn & Sweetman, 1996; Allen et al., 2003), of men compared with women

in Canada (Clark, 2001), of workers of color and other Canadians (Jackson & Robinson, 2000), and persons with disabilities and other Canadians (Fawcett, 1996). All of these studies examined the relationships in the overall workforce.

This research examined whether these disparities occur in the school to work transition period. In particular, this study investigated employment outcome differences between equity group and non-equity group graduates and female and male graduates from a large comprehensive Western Canadian community college. This school to work transition is a critical time for individuals and community colleges are seen as a means of connection to the workplace (see Mobley, 2001). A review by Schuyler (1997) suggested that community colleges were viewed as increasing workforce development through their enhancement of human capital through graduates. However, some doubts have been expressed about the effectiveness of community colleges in fulfilling this role (Dougherty, 1994). Mobley (2001) indicated there was a need for research about the effectiveness of community colleges in this transition. There is some evidence that equity groups are less likely than their classmates to find employment and when employed they earn less (Lavallée, Pereboom, Silver & Wannell, 2001). For community college graduates there was a gender gap in earnings (Wannell & Caron, 1994; Finnie 2000).

Becker (1993) argued that differences in employment outcomes are determined by individual productivity. Productivity variations are due to individual investments in education, as well as factors such as length of tenure, mobility and physical health. England (1982) contended that the theory has limitations. This was particularly true for its failure to explain fully occupational outcome differences, for example, lower returns for educational investments, for women and minorities (England, 1984; Duncan & Prus, 1992; Leeds, 1990). An alternative or addition to the human capital explanation included structural institutional factors, such as

industrial sector, occupation, geographic location, public/private sectors, union/non-unionized sectors and firm size. Observed differences in employment rates or earnings may be due to human capital or structural variables.

The purposes of this research were (a) to examine employment rates and employment earnings for equity and non-equity group graduates and for females compared with males, and (b) to examine the relationships of various other demographic and college experience variables on employment outcomes. In a sense, this was an attempt to explore the initial experiences that certain groups had in the labor market at the initiation of their careers after graduation. As well, this research examined the effectiveness of a community college in providing a successful school to work transition for equity graduates. There are four major research questions:

1. What is the relationship between gender and employment status?
2. What is the relationship between gender and employment earnings?
3. What is the relationship between equity group status and employment status?
4. What is the relationship between equity group status and employment earnings?

Methods

The community college is an open access institution and for 2001-2002 had about 6,500 students enrolled in regular, full-time programs, 1,900 apprenticeship enrollments and a part-time enrollment in continuing and distance education of approximately 24,000. It offered over 100 full-time programs in a wide variety of health, social service, aboriginal education, engineering technology, information technology, business and applied arts disciplines, designed to lead primarily to employment. The community college offered one year certificate and two year diploma programs. It was not a university transfer community college, but it did participate in a number of joint degree programs, not included in this research, with local universities.

This research used two major sources of data for the analysis. At the community college, an annual survey of graduates from certificate and diploma programs is undertaken to measure employment outcomes and college satisfaction within six to twelve months of graduating. The survey is conducted at the same time every year; however there is variation in the specific time of individual program completion, although by far most graduates would complete their program within six month of the initiation of the survey. In addition, the survey itself is a mixed mode survey that occurs over two months. The survey results for 1999-2000 certificate and diploma graduates were used to investigate these questions. The total number of 1999/2000 graduates was 1,606. The census mixed mode survey achieved a total response rate of 65% and a cooperation rate of 70% with 1041 respondents. The second source was institutional data on the characteristics of respondents and these data were merged with the survey dataset. Male graduates represented 53% of respondents. The mean age at graduation was 25.6 (*SD* 7.0) and the median age was 23.1. There was no significant difference in the mean age of female (26.0) and male (25.3) graduates. However, equity group graduates had a mean age of 29.3, significantly higher than the 24.9 of non-equity graduates, $t(1034) = 8.015$, $p < .001$. Diploma graduates comprised 62.2% of the respondents while certificate graduates comprised 37.8%.

The independent variables of interest for this research were gender and equity group status (this is self-reported on the College's application form) derived from institutional data. Equity status includes Aboriginal people, visible minorities and persons with disabilities.

The dependent variables were employment status and monthly earnings. Employment status is derived from the graduate survey and for purposes of this research included both employed and self-employed. Monthly earnings were derived from self reports on the graduate survey. Self reports are routinely used in university and community college (Pike, 1995). Turban

and Dougherty (1994) found that self reports of income correlated highly with company records. The intent of the question was to gather earning amounts solely related to employment or self-employment. Earnings were not standardized by hours of work because not all survey respondents provided this information.

In addition, this research examined the effects of such explanatory variables as activity prior to attending the community college, age at graduation, marital status, credential achievement; all of which could be considered as human capital variables. For this research, use of education, that is, whether or not employment was directly related to education, full or part time work status and field of study were considered structural variables. Field of study followed the categories and definitions used by Statistics Canada in its national post-secondary education studies and surveys (see Allen et al., 2003). The fields of study were: (a) Arts, including commerce and promotional arts, creative and design arts, graphic and audio-visual arts, mass communications, personal arts other applied arts. (b) Business, including, management and administration, merchandising and sales, secretarial science, and service industry technologies. (c) Engineering and applied sciences, including Chemical Technologies; electrical/electronic engineering technologies, engineering technologies, mathematics and computer science and transportation technologies. (d) Health sciences including diagnostic and treatment medical technologies, medical equipment and prosthetics nursing and other health related technologies. (e) Humanities including, journalism, languages and library science. (f) Natural sciences and primary industries, including environmental and conservation technologies, natural sciences, primary industries and resource processing technologies. (g) Social sciences and services, including, educational and counseling services, personal development, protection and correction services, recreation and sport, social sciences and social services.

It was anticipated that there would be differences in educational outcomes for equity groups and by gender with both experiencing higher unemployment rates and lower earnings.

Several types of analyses were used to the address the research questions. At the initial level, chi-square, t-test and ANOVA were used to compare observed characteristics related to gender and to equity group status.

For the first research question the dependent variable was employment status (1 if employed and 0 if not employed). As this variable is dichotomous, logistic regression was used to isolate the relationship between gender and employment status controlling for the various explanatory variables. The use of logistic regression for educational research has been increasing and it is suited for the study of the relationship of categorical outcome variables, such as being employed or not, and one or more continuous or categorical independent variables (Peng, So, Stage & St. John, 2002; Peng, Lee & Ingersoll, 2002). The methods for logistic regression have been explained by Cabrera (1994), Menard (2002), and Peng and So (2002). The analyses were performed using SPSS. The beta coefficients are presented consistent with the approach recommended by Peng, So, Stage and St. John (2002).

For the second research question, the dependent variable was employment earnings, a continuous variable. Linear regression was used to isolate the relationship between gender and earnings after controlling for other explanatory variables. The analysis included a number of categorical or design variables with more than two levels. Linear regression can be extended to accommodate dichotomous predictors (Hardy, 1993). This required that these variables be recoded into a number of separate dichotomous variables, through dummy coding (Kleinbaum & Kupper, 1978). The variables included field of study, marital status and activity prior to enrolling at the study community college. All analyses were conducted with SPSS.

For the third research question the dependent variable was employment status (1 if employed and 0 if not employed). As this variable is dichotomous, logistic regression was used to isolate the relationships between equity group status and employment status controlling for various explanatory variables. This followed the analytical pattern outlined for research question one.

For the fourth research question, the dependent variable was employment earnings, a continuous variable. Multiple regression was used to isolate the relationship between equity group status and earnings after controlling for other explanatory variables. This analysis included a number of dummy variables for the categorical explanatory variables.

There are limitations to this study. It is a first level analysis at one post-secondary educational institution, for only one year of graduates and any generalizations are very limited. The survey instrument was pre-existing and its purpose was primarily to gather data related to outcomes assessment and accountability purposes of the community college. There is also a potential problem due to omitted variables as there are a number of variables that influence employment outcomes not included in this analysis, such as individual ability, motivation and contacts in the employing community, as well as, the type of firm providing employment.

In addition, the observations for some variables in some analyses are small. Equity group members included Aboriginal people, visible minorities and persons with disabilities. These groups may experience the labor market quite differently. The small sample sizes in these individual groups precluded analysis by sub-group. In addition, this study looked solely at the relationships among gender and equity groups status and various employment outcomes. This was cross-sectional research and did not explore the causal effects of gender or equity group status.

Results

Table 1 provides the observed employment status by gender and equity group. Overall, 93 percent of graduates achieved employment within six to twelve months of graduating. There was no difference in employment rates for male and females, χ^2 (2, 1036) = 1.378, *ns*. However, male graduates had significantly higher average monthly earnings of $2150 than women, $1915, $t(714) = -4.063$, $p < .001$, as illustrated in Table 2. Although there was no difference in earnings for part time employed male and female graduates, full time employed males were more likely to earn higher incomes than females, $t(654) = -2.733$, $p=.006$. This was the case notwithstanding that females were more likely to be diploma graduates, χ^2 (1, 1037) = 7.442, $p = .006$, and diploma graduates earned higher monthly salaries, $t(718) = -6.877$, $p < .001$. Table 3 indicates that female and male graduates differed on a number of characteristics but not on the relationship of education to employment, which was high and identical at 86.9%. Women were more likely to have part time employment than males, χ^2 (1, 841) = 30.734, $p<.001$. There were also differences between male and female graduates in field of study. Women tended to graduate more from Business, Health Sciences, and Social Sciences. Only 16.0% of women graduated from Engineering and Applied Sciences compared with 58.3% of men. This distribution was similar to the national distribution in Canada (Allen et al., 2003). A one way analysis of variance with monthly earnings as the dependent variable and field of study as the independent variable produced a significant effect, $F(5, 712) = 15.348$, $p<.001$. Bonferroni's post hoc analysis revealed that graduates from Engineering and Applied Sciences earned significantly higher monthly incomes than graduates from other fields of study. Women were also more likely to have been in university prior to attending the community college. Men were more likely to be Engineering and Applied Sciences graduates and to be single.

Equity group graduates at 15.2% were more likely to be unemployed than non-equity group graduates at 5.4%, χ^2 (2, 1039) = 22.129, $p < .001$. However, there was no significant difference in monthly earnings, $t(717) = -1.9$, *ns*. Equity and non-equity grads differed on achievement, relationship of education to job, field of study, marital status and activity prior to enrolling as illustrated in Table 4. Equity graduates were more likely to be certificate graduates, χ^2 (1, 1037) = 7.422, $p = .006$. In addition, non-equity group members (88%) were more likely to have employment related to their education than equity group graduates (81%), χ^2 (1, 843) = 4.324, $p < .04$. Non-equity group graduates were more likely to be from Engineering and Applied Sciences and to be single. Equity graduates were more likely to be married and to be from Business and Social Sciences.

Although there was no difference at the descriptive level of employment status for women compared with men, logistic regression was conducted to explore if there were other variables that appeared to have an influence on employment for exploration in subsequent research. An examination of Table 5 suggests that achievement (being a diploma graduate increased the odds) and age (being younger increased the odds) were related to being employed. Gender did not appear to be related to employment status.

Women were observed to average lower monthly earnings than men among the community college graduates overall and for full time employed graduates. Multiple regression, for full time employed graduates only, showed that achievement, age at graduation, and fields of study, were significant predictors but that gender was not as illustrated in Table 6. As previously noted diploma graduates were more likely to earn higher monthly salaries and this is consistent with findings on the economic benefits of each year of education (Lemieux, 2001). Older graduates tended to have higher monthly earnings. The graduate respondents were grouped into

age quartiles and monthly salaries increased by quartile as illustrated in Figure 1. This likely reflects the economic benefits of the additional experience that older graduates would bring to a job. With Engineering and Applied Sciences as the reference category for the field of study dummy variables, Arts, Business, Natural Science and Social Science graduates were more likely to have lower monthly earnings. Table 7 illustrates that at the observed level women earned lower salaries in all fields of study and by achievement (excluding Natural Sciences and Primary Industries were there were only two female graduates) excepting Engineering and Applied Sciences Diploma were females earned $2598 monthly compared with $2275 for males. Controlling for the interaction effect of engineering and female graduates, it appeared that gender was an influencing factor in salary levels.

Equity group graduates were observed to have higher unemployment rates than non equity group graduates. The logistic regression analysis, as outlined in Table 8, suggested that being an equity group graduate increased the odds of not being employed. A forward logistic regression analysis suggested that equity group status was the best predictor of employment status. However, testing for interaction effects suggested that older equity group members were less likely to gain employment. Figure 2 illustrates that graduates in the 4th Quartile were more likely to be unemployed. Equity graduates were older than non-equity graduates.

Equity and non-equity group graduates were observed to have similar monthly earnings. At the descriptive level, field of study salaries by equity group status exhibited no differences as illustrated in Table 9. A linear regression analysis was conducted to ascertain, for purposes of additional research questions, if there were other predictors of monthly earnings. Table 10 indicates that achievement and age were the best predictors of earning status; equity group status was not predictive. Considering Engineering and Applied Sciences as the reference category for

the field of study dummy variables, Arts, Business, Natural Science and Social Science graduates were more likely to have lower monthly earnings.

The last stage of the analysis considered the relationship of gender and equity together on employment outcomes. At the observed level, female equity graduates experienced an unemployment rate of 18.4% significantly higher than the 4.7% of female non-equity graduates, $\chi^2(1, 420) = 17.795$, $p<.001$. There was no significant difference in the employment rates of male equity and non-equity graduates. In addition, female equity graduates had mean monthly earnings of $1689, significantly less than the $1960 of female non-equity graduates, $t(329) = 2.479$, $p=.014$. There was no statistical difference in the mean monthly earnings of $2119 of male equity graduates compared with the $2153 of male non-equity graduates.

Discussion

The reason for this research was to explore the initial school to work transition period for equity groups and for women at a large comprehensive community college. A primary mission of community colleges is to facilitate entry into post-secondary education and subsequently into meaningful participation in the economy. Understanding the impacts of the variables influencing employment success will contribute to improved institutional policy.

There are several observations to make as a result of this study. First, in terms of achieving initial employment, the College provided a successful transition for women compared with men. Overall the rate was 93%. However, women were more likely to be in part time positions than men. A structural economic model might posit that women are being segregated into part-time work at the school to work transition, that is, in their first post-college jobs. The available data did not allow for testing of whether or not the part time employment was involuntary.

Second, although the observed monthly salaries of female graduates were lower than for male graduates, the initial regression analysis indicated that the difference was due to other factors, particularly field of study. It is interesting to note that women Engineering and Applied Science diploma graduates earned higher salaries than male graduates. This suggests that women may be sought after in this field, perhaps through employment equity programs. Overall, it might be that women are being segregated into academic fields that have lower value in the labor market. This suggests that an area for further examination involves the barriers that women may experience in accessing certain fields of study, in this instance Engineering and Applied Sciences at the community college. Controlling for the interaction effects of female and engineering, where female earned 14% more than male graduates, the regression analysis suggested that being a female graduate did have a relationship with lower monthly earnings. It is appears that the gender gap in earnings starts at the school to work transition time.

Third, equity group members were observed to have lower employment rates than non-equity group members and this observation was sustained through the logistic regression analysis. There appears to be some inequality of opportunity at the school to work transition period as equity graduates are less likely to find work than their classmates. This suggests that there are a number of under utilized graduates from the study community college who are characterized by their Aboriginal heritage, skin color or activity limitations. This may be due to discrimination although there are other factors that may cause difficulty for equity graduates. Networking with contacts through family and friends is an important method of achieving employment and it may be that equity graduates do not have as rich a source of such contacts as their classmates. Considering interaction effects older equity graduates experienced the least success in achieving employment.

It is interesting to note that very young graduates 21.1 years of age or younger and older graduates 27.4 years of age and older experienced less success in achieving employment. From a human capital theory perspective, younger graduates may not yet have sufficient experience, but this explanation does not apply to older graduates. There may be unfairness in how older graduates experience the labor market from an employment perspective, although they do achieve higher earnings.

Once employed equity group status did not seem to be predictive of lower earnings. It was conjectured that as with females that equity graduates would achieve higher earnings if they were from Engineering and Applied Science but this was not supported by the data.

These initial results suggest that human capital theory may not be sufficient to explain these differential occupational outcomes and the lower returns for equivalent educational investments for female and equity graduates.

Understanding employment outcomes for different graduates at the school to work transition is a complex issue. This research was exploratory and has tentatively identified differential employment outcomes by gender and equity status. Further research over a number of years of graduating classes is required to establish these tentative findings. This would allow for a more thorough examination of the employment outcomes for the individual disadvantaged groups and the influence of explanatory variables in success at the initial school to work transition time.

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Table 1. Observed Employment Status by Gender and Equity Group Status

Characteristic	Total		Employed		Not-employed	
	N	%	N	%	N	%
Gender p=.958						
Male	486	100.0%	452	93.0%	34	7.0%
Female	420	100.0%	390	92.9%	30	7.1%
Equity Group Status p<.001						
Equity Group Member	151	100.0%	128	84.8%	23	15.2%
Non-equity Group Member	757	100.0%	716	94.6%	41	5.4%

Note. Analysis was for graduates in the workforce. Tests of statistical significance were based on chi-square.

Table 2. Observed Differences in Monthly Earnings by Gender and Equity Group Status

	Total		Full Time		Part Time	
Characteristic	Mean	*SD*	Mean	*SD*	Mean	*SD*
Total	$2044	$717	$2107	$738	$1316	$868
Gender	$p<.001$		$p<.01$		$p=.950$	
Male	$2150	$791	$2174	$775	$1331	$932
Female	$1915	$747	$2015	$679	$1313	$864
Equity Group Status	$p=.06$		$p=.38$		$p=.12$	
Equity Status	$1912	$792	$2044	$738	$1003	$517
Non-equity	$2064	$774	$2115	$737	$1418	$938

Note. Tests of statistical significance were based on *t* tests.

Table 3. Observed Characteristics of Graduate Respondents by Gender

Characteristic	Female		Male		Total	
	N	%	N	%	N	%
Total	486	46.9%	551	53.1%	1037	100.0%
Achievement p =.006						
Certificate	162	33.3%	229	41.6%	391	37.7%
Diploma	324	66.7%	322	58.4%	646	62.3%
Education relationship to employment p=.988						
Related	339	86.9%	391	86.9%	730	86.9%
Not related	51	13.1%	59	13.1%	110	13.1%
Employment quality p<.001						
Full time	336	86.2%	436	96.7%	772	91.8%
Part time	54	13.8%	15	3.3%	69	8.2%
Field of Study p<.001						
Arts	48	9.9%	30	5.4%	78	7.5%
Business	195	40.1%	130	23.6%	325	31.3%
Engineering & applied sciences	78	16.0%	321	58.3%	399	38.5%
Health sciences	87	17.9%	9	1.6%	96	9.3%
Natural sciences & primary industries	3	.6%	38	6.9%	41	4.0%
Social sciences	75	15.4%	23	4.2%	98	9.5%
Marital status p=.002						
Single	362	78.7%	436	84.0%	798	81.5%
Married	62	13.5%	66	12.7%	128	13.1%
Widowed, separated, divorced	25	5.4%	6	1.2%	31	3.2%
Common Law	11	2.4%	11	2.1%	22	2.2%
Main activity prior to enrolling p<.001						
In high school	83	19.6%	107	22.6%	190	21.2%
In college	60	14.2%	120	25.3%	180	20.1%
In university	69	16.3%	31	6.5%	100	11.1%
Other education	12	2.8%	12	2.5%	24	2.7%
Employed	180	42.6%	194	40.9%	374	41.7%
Not employed	19	4.5%	10	2.1%	29	3.2%

Note: Statistical tests for the crosstabs are based on chi-square.

Table 4: Observed Characteristics of Graduate Respondents by Equity Group Status

Characteristic	Equity Group		Non-Equity Group		Total	
	N	%	N	%	N	%
Total	184	17.7%	856	82.1%	1040	100.0%
Achievement $p<.001$						
Certificate	94	51.2%	299	34.9%	393	37.8%
Diploma	90	48.9%	557	65.1%	647	62.2%
Education relationship to employment $p=.04$						
Related	104	81.3%	629	88.0%	775	87.0%
Not related	24	18.8%	54	12.0%	69	13.0%
Employment quality $p=.112$						
Full Time	113	88.3%	662	92.5%	775	91.8%
Part Time	15	11.7%	54	7.5%	69	8.2%
Field of Study $p<.001$						
Arts	15	8.2%	63	7.4%	78	7.5%
Business	70	38.0%	255	29.8%	325	31.3%
Engineering & applied sciences	43	23.4%	358	41.8%	401	38.6%
Health sciences	15	8.2%	81	9.5%	96	9.2%
Natural sciences & primary industries	3	1.6%	38	4.4%	41	3.9%
Social sciences	38	20.7%	61	71.%	99	9.5%
Marital status $p<.001$						
Single	125	70.6%	675	84.1%	800	81.6%
Married	35	19.8%	92	11.5%	127	13.0%
Widowed, separated, divorced	11	6.2%	20	2.5%	31	3.2%
Common Law	6	3.4%	16	2.0%	22	2.2%
Main activity prior to enrolling $p<.001$						
In high school	21	13.2%	169	22.9%	190	21.2%
In college	43	27.0%	137	18.5%	180	20.1%
In university	14	8.8%	86	11.6%	100	11.1%
Other education	7	4.4%	17	2.3%	24	2.7%
Employed	58	36.5%	317	42.9%	375	41.8%
Not employed	16	10.1%	13	1.8%	29	3.2%

Note: Statistical tests for the crosstabs are based on chi-square.

Table 5. Logistic Regression Analysis of Employment Status Considering Gender

Predictor	B	S.E.	Wald	df	Sig.	Exp(B)
GENDER(1)	.095	.354	.073	1	.788	1.100
ACHIEVE(1)	-.985	.314	9.805	1	.002	.374
AGE	-.070	.025	7.514	1	.006	.933
MARITAL STATUS			1.146	3	.766	
SINGLE	-.721	1.142	.398	1	.528	.486
MARRIED	-.272	1.169	.054	1	.816	.762
DIVORCE/SEPARATE	-.714	1.315	.295	1	.587	.490
MAINACTI			7.181	5	.208	
IN HIGH SCH.	.098	.676	.021	1	.885	1.103
IN C. COLLEGE	.710	.658	1.164	1	.281	2.033
IN UNIV.	.719	.790	.829	1	.363	2.053
OTHER ED.	.817	.991	.680	1	.410	2.263
EMPLOYED	1.052	.610	2.972	1	.085	2.864
STFIELD			2.539	5	.771	
ARTS	.222	.776	.082	1	.774	1.249
BUSINESS	.139	.532	.069	1	.793	1.150
ENGINERING	.429	.561	.585	1	.444	1.536
HEALTH SCIENCES	1.082	.877	1.521	1	.218	2.950
NAT. SCIENCES	6.238	10.412	.359	1	.549	512.057
Constant	4.422	1.577	7.856	1	.005	83.227
Test			χ^2	df	Sig.	
Overall model evaluation						
Model chi-square			33.044	16	.007	
Goodness-of-fit						
Hosmer & Lemeshow			12.008	8	.151	
Percent Correct		69.3				

Table 6. Regression Analysis Summary for Variables Predicting Earnings, considering Gender.

	B	Std. Error	Beta	Sig
(Constant)	1495.423	259.925		.000
Female	-61.358	68.180	-.042	.369
Single	23.410	107.725	.011	.828
In High School	-38.171	93.521	-.022	.683
In Univ.	89.679	111.658	.037	.422
Other Education	-320.128	215.755	-.059	.138
Employed	115.733	77.972	.079	.138
Not Employed	450.675	225.117	.083	.046
Arts Field	-447.013	127.834	-.144	.001
Business Field	-477.837	71.463	-.311	.000
Health Field	-221.556	132.102	-.072	.094
Natural Sciences	-297.813	130.359	-.093	.023
Social Sciences	-524.107	120.658	-.194	.000
Training Related	60.783	87.919	.027	.490
Diploma	484.878	65.220	.318	.000
Age at Graduation	17.212	6.682	.143	.010

Notes. Analysis conducted for full time employment only.
$R^2 = .218$ ($N = 549$, $p < .001$)

Table 7. Monthly Earnings for Graduates by Gender, Achievement and Field of Study

Field of Study	Certificate				Diploma				Total			
	Female		Male		Female		Male		Female		Male	
	n	Earnings	n	Earnings	n	Earnings	n	Earnings	n	Earnings	n	Earnings
Arts	5	$1540	-	-	26	$1925	21	$2101	31	$1,863	21	$2,101
Business	47	$1626	30	$1651	92	$1807	52	$1986	139	$1,746	82	$1,863
Engineering & applied science	4	$1748	99	$1950	48	$2659	136	$2512	52	$2,589	235	$2,275
Health Sciences	34	$1630	2	$1766	23	$2136	3	$2483	57	$1,834	5	$2,196
Natural sciences & primary inds.	-	-	25	$1802	2	$2419	7	$2150	2	$2,419	32	$1,878
Social sciences	3	$900	5	$2447	45	$1842	5	$2589	48	$1,783	10	$2,518
Totals	93	$1605	161	$1884	236	$2037	224	$2342	329	$1,915	385	$2,150

Table 8. Logistic Regression Analysis of Employment Status, Equity Group Status

	B	S.E.	Wald	df	Sig.	Exp(B)
ACHIEVE(1)	-.797	.318	6.273	1	.012	.451
AGE	-.053	.026	4.150	1	.042	.949
MARITAL STATUS			.904	3	.825	
SINGLE	-.630	1.146	.303	1	.582	.532
MARRIED	-.272	1.182	.053	1	.818	.762
DIVORCE/SEPARATE	-.765	1.326	.333	1	.564	.465
MAINACTI			5.792	5	.327	
IN HIGH SCH.	-.059	.703	.007	1	.933	.943
IN C. COLLEGE	.669	.672	.992	1	.319	1.952
IN UNIV.	.635	.809	.617	1	.432	1.887
OTHER ED.	.805	1.018	.625	1	.429	2.237
EMPLOYED	.813	.635	1.639	1	.200	2.255
STFIELD			1.065	5	.957	
ARTS	.100	.795	.016	1	.900	1.105
BUSINESS	-.029	.546	.003	1	.958	.972
ENGINEERING	-.003	.569	.000	1	.996	.997
HEALTH SCIENCES	.641	.894	.515	1	.473	1.899
NAT. SCIENCES	5.776	10.360	.311	1	.577	322.368
EQUITYGR(1)	-1.093	.349	9.777	1	.002	.335
Constant	4.578	1.544	8.790	1	.003	97.285
Test			χ^2	df	Sig.	
Overall model evaluation						
Model chi-square			42.128	16	.000	
Goodness-of-fit						
Hosmer & Lemeshow			14.961	8	.060	
Percent Correct	73.7					

Table 9. Monthly Earnings for Graduates by Equity Status and Field of Study.

Field of Study	Equity			Non-equity			Total		
	n	Salary	*SD*	n	Salary	*SD*	n	Salary	*SD*
Arts	8	$2079	$894	44	$1937	$760	52	$1959	$774
Business	48	$1730	$679	173	$1806	$648	221	$1790	$654
Engineering & applied science	28	$2266	$841	261	$2335	$806	289	$2328	$809
Health Sciences	9	$1680	$510	53	$1895	$810	62	$1864	$774
Natural sciences & primary industries	3	$1860	$103	31	$1915	$637	34	$1910	$608
Social sciences	14	$1893	$1044	45	$1916	$598	59	$1911	$718
Total	110	$1912	$792	607	$2065	$774	717	$2041	$778

Table 10. Regression Summary for Variables Predicting Earnings (Equity Group)

	B	Std. Error	Beta	Sig.
(Constant)	1523.429	260.965		.000
Single	25.017	107.875	.012	.817
In High School	-54.281	93.367	-.031	.561
In Univ	67.664	109.558	.028	.537
Other Education	-314.590	215.974	-.058	.146
Employed	109.666	77.767	.075	.159
Not Employed	446.335	225.874	.082	.049
Arts	-474.586	125.444	-.154	.000
Business	-507.677	66.270	-.331	.000
Health	-257.795	124.155	-.083	.038
Natural Sciences	-290.237	130.131	-.091	.026
Social Sciences	-560.390	114.569	-.208	.000
Training Related employment	56.306	87.738	.025	.521
achievement	478.854	64.974	.315	.000
Age (at Graduation)	15.987	6.801	.133	.019
equity group status	40.449	83.100	.020	.627

Notes. Analysis conducted for full time employment only.
$R^2 = .215$ ($N = 549$), $p<.001$.

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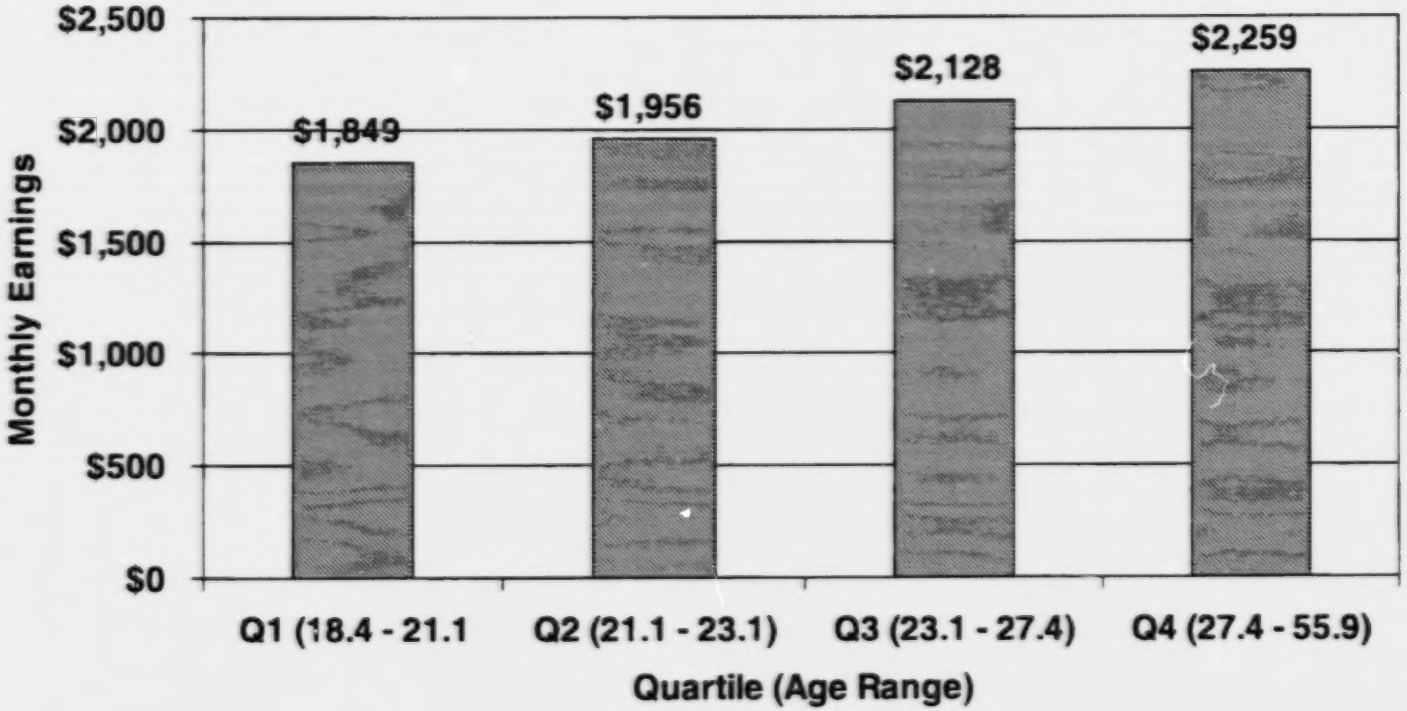

Figure 1. Frequency distribution of monthly earnings of graduates by age quartiles.

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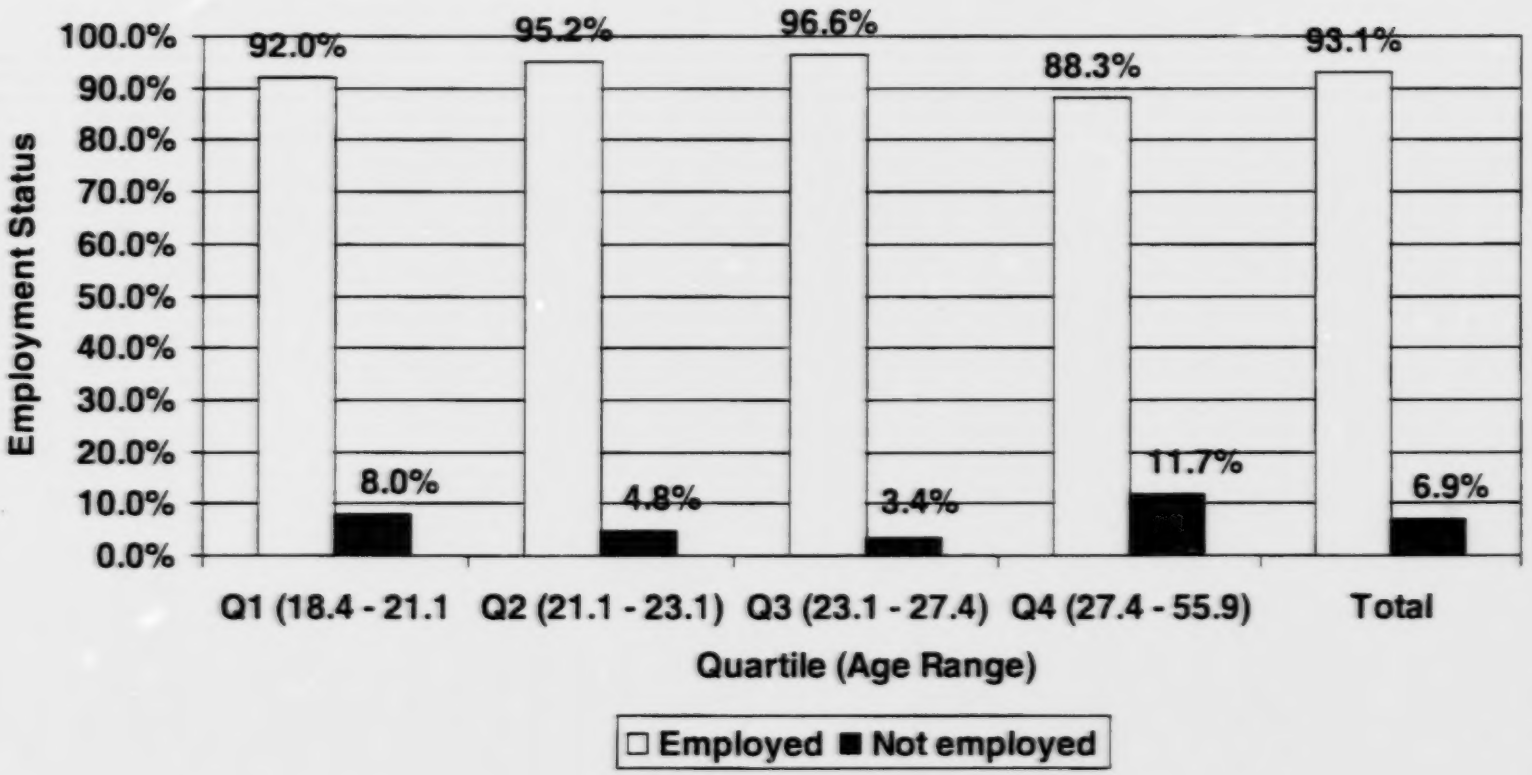

Figure 2. Frequency distribution of employment status by age quartile.

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